

SYSTEM AND METHOD FOR THE MEASUREMENT OF OPTICAL DISTORTIONS

ABSTRACT OF THE DISCLOSURE

An apparatus measures optical deviations caused by an aircraft canopy. In this apparatus, a light source generates a beam of light. A collimator, optically coupled to the light source, then collimates the beam of light. An optical assembly patterns the collimated beam of light into a patterned array of subaperture beams, which is directed onto an imaging screen. The patterned collimated beam of light produces images, which are electronically imaged and recorded to memory. An undistorted image results when the aircraft canopy is not placed in a path of the patterned collimated beam of light. However, a distorted image results when the aircraft canopy is placed in a path of the patterned collimated beam of light and distorts the patterned collimated beam of light. A processing unit compares the distorted image to the undistorted image to determine the optical distortions caused by the aircraft canopy.